Remarks

The Office Action dated May 15, 2008 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 5-10, 12-18 and 25-28 are now pending in this application. Claims 13-16, 27 and 28 were withdrawn from consideration by the examiner. Claims 5-12, 17-19, 25 and 26 stand rejected. Claims 11 and 19 have been canceled.

The rejection of Claims 5-12, 17-19, and 25-26 under 35 U.S.C. § 102(b) as being anticipated by Artnik et al. (US 5,343,506) is respectfully traversed.

Artnik et al describe a nuclear rector that includes a reactor pressure vessel positioned inside the drywell of a containment vessel. The drywell includes a support structure 7 that has a circumferential wall 7.2 that surrounds the pressure vessel. Located in the bottom portion of the drywell is a core catcher device that includes a collecting basin 19. A cooling system 29 is located outside of the collecting basin 19. Cooling channels 29.1 include turbulent bodies 34 (i.e. baffles). A cooling inlet channel 31 (i.e., pipe) extends through the bottom region of the protective structure. Inlet channels 31a extend in a star pattern or radially horizontal pattern from a short vertical inlet channel piece 31a which in turn is connected to inlet chamber 35 which is in flow communications with the suppression pool 24. The turbulent bodies 34 (see Fig 5.) are tubular and extend from the lower section 7.1 (i.e., floor) of support structure 7 to collecting basin wall 19. In addition delta wings 34d (also turbulent bodies) are attached to floor 7.1 of support structure 7. Notably, Artnik et al. do not describe nor suggest at least one baffle that includes a base end and a tip end, with the base end having a larger cross-sectional area than

the tip end, and with the base end positioned proximate the drywell side wall (i.e. circumferential wall 7.2).

Independent Claim 9 of the present application recites in part "An assembly comprising: a containment vessel comprising a suppression pool, a drywell and a floor, said drywell comprising a sidewall extending upward from said floor, said sidewall separating said suppression pool from said drywell, said suppression pool, said drywell, and said drywell sidewall located inside said containment vessel; a reactor pressure vessel installed inside said containment vessel; a base grid disposed underneath said pressure vessel and spaced vertically above said floor of said containment vessel to define a sump therebetween, wherein a vertical axis of said reactor pressure vessel intersects said base grid, said base grid comprising a top plate; a layer of refractory material disposed on top of said top plate; an annular base grid shield wall extending vertically upward from said base grid, said base grid shield wall having a configuration comprising at least one of: (a) said base grid shield wall spaced inwardly from said drywell sidewall to define an annular channel therebetween; and (b) said base grid shield wall positioned adjacent said drywell sidewall; at least one flow baffle in said sump, said at least one flow baffle comprising a base end and a tip end, said base end having a larger cross-sectional area than said tip end, said base end positioned proximate said drywell side wall . . .".

Artnik et al do not describe nor suggest an assembly as recited in Claim 9. Particularly, Artnik et al. do not describe nor suggest an assembly that includes at least one flow baffle in the sump, the at least one flow baffle including a base end and a tip end, with the base end having a larger cross-sectional area than the tip end, and with the base end positioned proximate the drywell side wall. Rather, Artnik et al. describe at Col. 13, line 35 to Col. 14, line 37, a nuclear

reactor that includes turbulent bodies 34r that are tubular in shape and extend from the lower section 7.1 (i.e., floor) of support structure 7 to collecting basin wall 19, and delta wing shaped turbulent bodies 34d are attached to floor 7.1 of support structure 7. Applicants submit that the turbulent bodies 34r and 34d described in Artnik et al. are not flow baffle including a base end and a tip end, with the base end having a larger cross-sectional area than the tip end, and with the base end positioned proximate the drywell side wall.

The Office Action, at page 3, suggests that "l) 'flow baffle in the sump' reads on the baffle shown, e.g., at the bottom of Fig. 2B, 3B, that directs the inlet flow f2 through inlet 31." Applicants disagree with this suggestion because Figures 2B and 3B clearly show that inlet 31 extends through the bottom part 7.1 of the support structure 7, and that Artnik et al. describe, at Col. 11, lines 26- 29, that "inlet channels 31a extend in a star pattern or radially-horizontally from a short vertical inlet channel piece 31b to the inlet chamber 33. Applicants submit that the triangular section of bottom part 7.1 of the support structure 7 shown in Figures 2B and 3B is not a baffle. Rather, Figures 2B and 3B clearly show a sectional view of one inlet channel 31a (i.e., inlet pipe) extending through the support structure 7. Artnik et al. clearly describe a plurality of inlet channels 31a that extend through the support structure 7 from the inlet channel piece 31b to the inlet chamber 33. Applicants further submit that the only baffle like structures that Artnik et al. describe or show are turbulent bodies 34r and 34d. Accordingly, Applicants submit that independent Claim 9 is patentable over Artnik et al.

Claim 11 has been canceled.

Claims 5-8, 10, and 12 depend from independent Claim 9. When the recitations of dependent Claims 5-8, 10, and 12 are considered in combination with the recitations of Claim 9,

Applicants respectfully submit that Claims 5-8, 10, and 12 likewise are patentable over Artnik et al.

Independent Claim 17 recites in part "A nuclear reactor comprising: . . . a core catcher cooling system located in said primary containment and disposed underneath said reactor pressure vessel, said core catcher cooling system comprising: a base grid having a top plate and a bottom plate, said base grid disposed directly below said reactor pressure vessel and spaced vertically above said floor of said containment vessel to define a sump therebetween; a layer of refractory material disposed on top of said top plate; . . . at least one flow baffle in said sump, said at least one flow baffle comprising a base end and a tip end, said base end having a larger cross-sectional area than said tip end, said base end positioned proximate said drywell side wall."

Artnik et al do not describe nor suggest a nuclear reactor as recited in Claim 17. Particularly, Artnik et al. do not describe nor suggest a nuclear reactor that includes a core catcher cooling system that includes at least one flow baffle in the sump, the at least one flow baffle including a base end and a tip end, with the base end having a larger cross-sectional area than the tip end, and with the base end positioned proximate the drywell side wall. Rather, Artnik et al. describe at Col. 13, line 35 to Col. 14, line 37, a nuclear reactor that includes turbulent bodies 34r that are tubular in shape and extend from the lower section 7.1 (i.e., floor) of support structure 7 to collecting basin wall 19, and delta wing shaped turbulent bodies 34d are attached to floor 7.1 of support structure 7. Applicants submit that the turbulent bodies 34r and 34d described in Artnik et al. are not flow baffle including a base end and a tip end, with the base end having a larger cross-sectional area than the tip end, and with the base end positioned proximate the drywell side wall.

The Office Action, at page 3, suggests that "l) 'flow baffle in the sump' reads on the baffle shown, e.g., at the bottom of Fig. 2B, 3B, that directs the inlet flow f2 through inlet 31." Applicants disagree with this suggestion because Figures 2B and 3B clearly show that inlet 31 extends through the bottom part 7.1 of the support structure 7, and that Artnik et al. describe, at Col. 11, lines 26- 29, that "inlet channels 31a extend in a star pattern or radially-horizontally from a short vertical inlet channel piece 31b to the inlet chamber 33. Applicants submit that the triangular section of bottom part 7.1 of the support structure 7 shown in Figures 2B and 3B is not a baffle. Rather, Figures 2B and 3B clearly show a sectional view of one inlet channel 31a (i.e., inlet pipe) extending through the support structure 7. Artnik et al. clearly describe a plurality of inlet channels 31a that extend through the support structure 7 from the inlet channel piece 31b to the inlet chamber 33. Applicants further submit that the only baffle like structures that Artnik et al. describe or show are turbulent bodies 34r and 34d. Accordingly, Applicants submit that independent Claim 17 is patentable over Artnik et al.

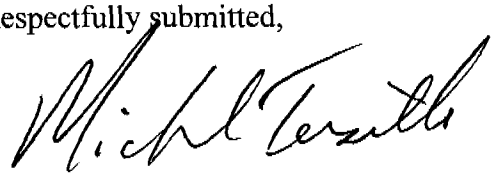
Claim 19 has been canceled.

Claims 18, 25 and 26 depend from independent Claim 17. When the recitations of dependent Claims 18, 25 and 26 are considered in combination with the recitations of Claim 17, Applicants respectfully submit that Claims 18, 25 and 26 likewise are patentable over Artnik et al.

For the reasons set forth above, Applicants respectfully request that the Section 102(b) rejection of Claims 5-12, 17-19, and 25-26 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,



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